WVR028X-I2

16 Channel Penta-brid 5M-N/1080P Mini 1U Digital Video Recorder

Ai WATASHI

Launched by WATASHI Technology, AI WATASHI is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, AI WATASHI provides intelligent, simple and inclusive products and solutions.

System Overview

WATASHI Technology, a world-leading video-centric smart IoT solution and service provider, debuted its new XVR series, WVR028X-I2 featuring full-channel SMD Plus (except for 32-channel devices) to benefit customers from AI upgrade. The series are designated to reduce false-alarm rates and human surveillance costs, thus bringing great value to customers in search of products with accurate human/vehicle alarm to raise the security level of various indoor and outdoor facilities.

Functions

Real Time Face Recognition
Video stream real time face recognition. Facial attributes analysis features including gender, age, expression, glasses, moustache, mouth mask. Identify people and also capture, record faces with metadata. Facial feature filtering while real time display, only show faces with target features.
*Face Recognition takes effect when Face is selected in AI Mode.

Perimeter Protection
Automatically filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improving alarm accuracy.
*Perimeter Protection takes effect when IVS&SMD is selected in AI Mode.

SMD Plus
SMD Plus, referred to as Smart Motion Detection Plus, which is an upgrading version of SMD that greatly improves the alarm accuracy by loading deep-learning algorithm. It analyzes person and vehicle shapes

· H.265+/H.265 dual-stream video compression

· Supports HDCVI/AHD/TVI/CVBS/IP video inputs

· Max 24 channels IP camera inputs, each channel up to 6MP; Max 128 Mbps incoming bandwidth

· Up to 2 channels video stream (analog channel) Perimeter Protection

· Up to 16 channels video stream (analog channel) SMD Plus

· Up to 2 channels video stream (analog channel) human face recognition

· IoT & POS functionalities

based on motion detection and send alarms only when person and vehicle intrudes.
*SMD Plus takes effect when SMD or IVS&SMD is selected in AI Mode.

AI Coding
Compared with H.265, AI codec can reduce up to 50% bit rate and storage requirements while have no loss of decoding compatibility, providing clear human and vehicle details.

Smart H.265+
Smart Codec, H.265+ can reduce up to 90% bit rate and storage requirements compared with H.264 without having to invest in new cameras.

HDCVI/AHD/TVI/CVBS Auto-detect
The XVR can auto recognize the signal of front-camera without any setting. It makes operation more friendly and convenient.

High Definition Camera Input
The XVR supports up to 5MP HDCVI camera and 6MP IP camera input.

Coaxial Audio/Upgrade/Alarm
The integrated design can reduce wiring troubles which makes it much more cost-effective and convenient for installation.

Long Distance Transmission
The HDCVI system supports long distance transmission over coaxial cable and UTP, max. 700m for 4K/4MP, 800m for 1080P and 1200m for 720P.

AI Search
Extract and classify person and vehicles from massive video data, easy for end users to trace historical information and analyze. Person & Vehicle optional for playback to achieve quick target search, saving event retrieval time.

Technical Specification

System

Main Processor	Embedded Processor
Operating System	Embedded LINUX

Perimeter Protection

Performance	2 channels, 10 IVS for each channel
Object classification	Human/Vehicle secondary recognition for tripwire and intrusion
AI Search	Search by target classification (Human, Vehicle)

Face Recognition

Performance	Max 12 face pictures/sec processing
	2 channels video stream face recognition, only support analog camera
Stranger Mode	Detect strangers' faces (not in device's face database). Similarity threshold can be set manually.
AI Search	Up to 8 target face images search at same time, similarity threshold can be set for each target face image.
Database Management	Up to 10 face databases with 10,000 face images in total. Name, gender, birthday, address, certificate type, certificate No., countries & regions and state can be added to each face picture.
Database Application	Each database can be applied to video channels independently .
Trigger Events	Buzzer, Voice Prompts, Email, Snapshot, Recording, Alarm Out, PTZ Activation, etc.

SMD Plus

Performance	16 channels
AI Search	Search by target classification (Human, Vehicle)

Video and Audio

Analog Camera Input	16 channels, BNC
HDCVI Camera Input	5MP, 4MP, 1080P@25/30fps, 720P@50/60fps, 720P@25/30fps
AHD Camera Input	5MP, 4MP, 1080P@25/30, 720P@25/30fps
TVI Camera Input	5MP, 4MP, 1080P@25/30, 720P@25/30fps
CVBS Camera Input	PAL/NTSC
IP Camera Input	16+8 channels, each channel up to 6MP
Audio In/Out	1/1, RCA
Two-way Talk	Reuse audio in/out, RCA

Recording

Compression	AI Coding/H.265+/H.265/H.264+/H.264
Resolution	5M-N, 4M-N, 1080P, 1080N, 720P, 960H, D1, CIF
Record Rate	Main stream: All channel 5M-N (1fps–10fps); 4M-N/1080P (1fps–15fps); 1080N/720P/960H/D1/CIF (1fps–25/30fps) Sub stream: D1/CIF (1fps–15fps)
Bit Rate	32 Kbps–6144 Kbps Per Channel
Record Mode	Manual, Schedule (General, Continuous), MD (Video detection: Motion Detection, Video Loss, Tampering), Alarm, Stop
Record Interval	1 – 60 min (default: 60 min), Pre-record: 1 s–30 s, Post-record: 10 s–300 s

Audio Compression	G.711A, G.711U, PCM
Audio Sample Rate	8 KHz, 16 bit Per Channel
Audio Bit Rate	64 Kbps Per Channel

Display

Interface	1 HDMI ,1 VGA
Resolution	VGA: 1920 × 1080, 1280 × 1024, 1280 × 720 HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720 It changes to 1920 × 1080, 1280 × 1024, 1280 × 720 when Face or IVS&SMD is selected in AI Mode.
Multi-screen Display	When IP extension mode not enabled: 1/4/8/9/16 When IP extension mode enabled: 1/4/8/9/16/25
OSD	Camera title, Time, Video loss, Camera lock, Motion detection, Recording

Network

Interface	1 RJ-45 Port (1000 MB)
Network Function	HTTP, HTTPS, TCP/IP, IPv4/IPv6, Wi-Fi, 3G/4G, SNMP, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE,DDNS, FTP, Alarm Server, P2P,IP Search (Supports Dahua IP camera, DVR, NVS, etc.)
Max. User Access	128 users
Smart Phone	iPhone, iPad, Android
Interoperability	ONVIF 16.12, CGI Conformant

Video Detection and Alarm

Trigger Events	Recording, PTZ, Tour, Video Push, Email, FTP, Snapshot, Buzzer and Screen Tips
Video Detection	Motion Detection, MD Zones: 396 (22 × 18), Video Loss, Tampering and Diagnosis
Alarm input	N/A
Relay Output	N/A

Playback and Backup

Playback	1/4/9/16 It changes to 1/4/9 split when Face or IVS&SMD is selected in AI Mode.
Search Mode	Time /Date, Alarm, MD and Exact Search (accurate to second)
Playback Function	Play, Pause, Stop, Rewind, Fast play, Slow Play, Next File, Previous File, Next Camera, Previous Camera, Full Screen, Repeat, Shuffle, Backup Selection, Digital Zoom
Backup Mode	USB Device/Network

Storage

Internal HDD	1 SATA Port, up to 10TB capacity
eSATA	N/A

Auxiliary Interface

USB	2 USB Ports (1 USB 2.0 , 1 USB 3.0)
RS485	1 Port, for PTZ Control
RS232	N/A

Electrical

Power Supply	DC 12V/2A
Power Consumption (Without HDD)	<12W

Construction

Dimensions	Compact 1U, 260 mm × 238 mm × 48 mm (10.24'' × 9.34'' × 1.87'')
Net Weight (without HDD)	1.0 kg (2.2 lb)
Gross Weight	1.4 kg (3.1 lb)
Installation	Desktop installation

Environmental

Operating Conditions	-10°C to +55°C (+14°F to +131°F), 0–90% RH
Storage Conditions	-20°C to +70°C (-4°F to +158°F) , 0–90% RH

Third-party Support

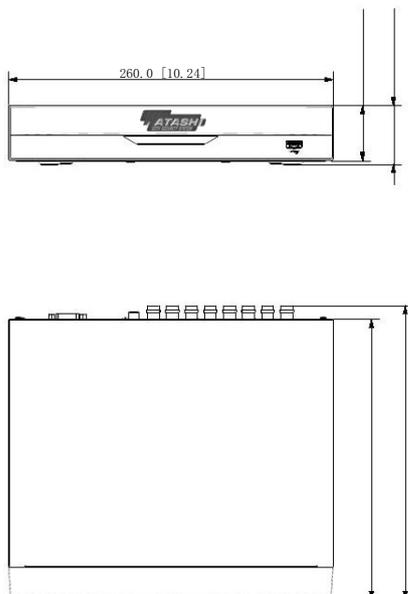|	
Third-party Support	Dahua, Arecont Vision, AXIS, Bosch, Brickcom, Canon, CP Plus, Dynacolor, Honeywell, Panasonic, Pelco, Samsung, Sanyo, Sony, Videotec, Vivotek, and more

Certifications

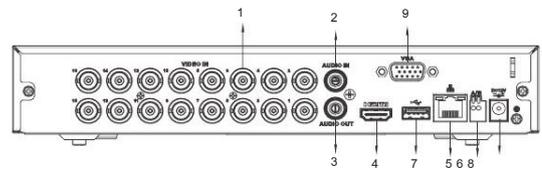|	
Certifications	FCC: Part 15 Subpart B
	CE: CE-LVD: EN 60950-1/IEC 60950-1 CE-EMC: EN 61000-3-2, EN 61000-3-3, EN 55032, EN50130, EN 55024

Panels

1	VIDEO IN	6	RS485 Interface
2	AUDIO IN, RCA Connector	7	USB Interface
3	AUDIO OUT, RCA Connector	8	DC 12V Power Input
4	HDMI Interface	9	VGA Interface
5	Network Interface		

Ordering Information

Type	Model	Description
16 Channel AI WATASHI XVR	WVR028X-I2	Compact 1U AI WATASHI Digital Video Recorder

Dimensions (mm[inch])

260. 0 [10. 24]